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## EPIDERMOID CYST OF THE SCROTUM: A CASE REPORT

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A 44-year-old male was admitted with the chief complaint of a huge mass in the right scrotum. Computed tomography (CT), magnetic resonance imaging (MRI) and ultrasonography demonstrated a homogeneous lesion in the right testis. Under the diagnosis of right testicular tumor, surgical resection was performed and the right testis itself was found to be essentially normal. The mass contained 500 ml of liquid. The pathologic diagnosis was an epidermoid cyst of the scrotum, a rare disease with only 11 cases reported in Japan.

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**Key words:** Epidermoid cyst, Scrotum, Diagnosis

### INTRODUCTION

Scrotal tumors without relationship to the testis, epididymis or spermatic cord are very rare. We report a case of an epidermoid cyst of the scrotum which initially could not be distinguished from a testicular tumor.

### CASE REPORT

A 44-year-old male was admitted to our department on December 12, 1994, with the chief complaint of a huge mass in the right scrotum. The mass had first been noticed three years earlier, and since then had gradually increased in size. However, no treatment had been given. The patient was receiving diet therapy for diabetic mellitus. On physical examination, the penile shaft was of normal appearance, and inguinal lymph nodes were not palpable. The left testis was normal. However the right scrotum was enlarged to the size of an adult fist. Scrotal transillumination was negative and the right scrotal contents was evident only as a huge mass in which the right testis could not be differentiated.

Ultrasonography demonstrated a homogeneous mass suggestive of testicular tumor. A large area of homogeneous low density was apparent in the right scrotum on CT (Fig. 1). Magnetic resonance imaging in T2-weighted images revealed a high intensity area. Testicular tumor marker values were all within the normal range.

Inguinal right testicular exploration was performed with vascular clamping before testicular mobilization. The right scrotal content could not be mobilized because of severe adhesion to the scrotal skin. When sharp dissection around the mass and the scrotal skin was attempted, approximately 500 ml of brownish mucoid pus was discharged. The right testis could

be uncovered with further dissection but since it appeared to be abnormal, the right scrotal sac and contents (the cyst and right testis) were excised. The cyst was 15×13×14 cm in size and *α-Streptococcus*

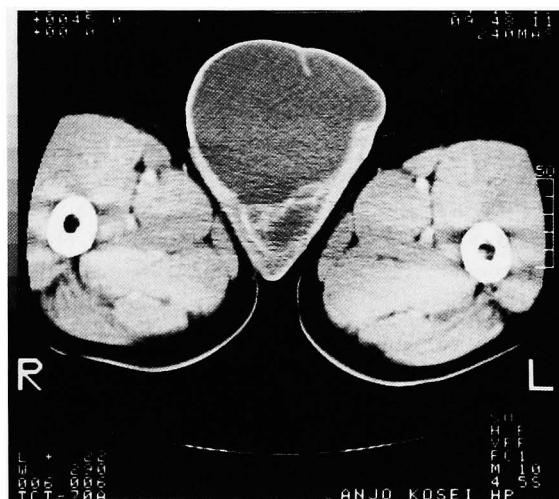


Fig. 1. CT revealed a homogeneous low density area in right scrotum.

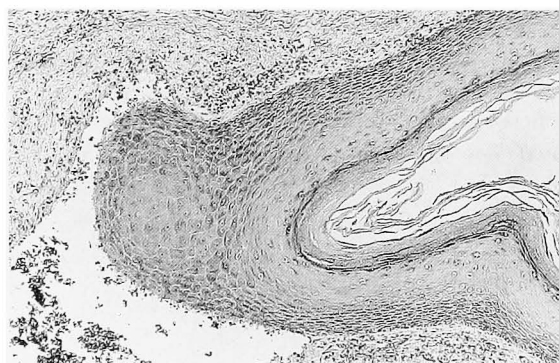


Fig. 2. Microscopic specimen; Epidermoid cyst lined with keratinized squamous epithelium.

was detected in the culture from the pus.

Histologically the right testis had no notable findings. Histological examination revealed a huge cyst lined with keratinized squamous epithelium under the scrotal skin and no notable findings for the right testis. No skin appendages were present in the stromal tissue and the cavity only contained keratin. Diagnosis was therefore of a scrotal epidermoid cyst (Fig. 2).

### DISCUSSION

The histological characters of epidermoid cysts are walls lined with keratinized squamous epithelium without skin appendages<sup>1)</sup>. In the urological region, about 120 cases of such cysts have been reported in Japan as benign tumors of the testes<sup>2)</sup>. There are a few theories of the etiology of epidermoid cysts of the testis<sup>3)</sup>, one being that they represent monophasic teratoma development and the other that they reflect dislocation of skin tissue. However, the origin remains unknown.

Cases of epidermoid cysts of the scrotum are rare, the present case being only the twelfth reported in Japan<sup>4-7)</sup>. Epidermoid cysts of the scrotum are classified as benign tumors of epithelial tissue with a few reports equal to atheroma of scrotal skin<sup>6)</sup>. Three theories of their etiology have been proposed<sup>8)</sup>; 1) they arise through epithelial confusion on perineal raphe, 2) they are monophasic teratomas, and 3) they are due to scrotal skin trauma. Our case did not appear to be congenital. Many tiny scrotal skin trauma scars were noticed. Taking into consideration the fact that he had received diet therapy for diabetic mellitus, we think that of the epidermoid cyst of the scrotum in our case was a kind of teratoma which rapidly increased in size after infection. The correct diagnosis of epidermoid cysts of the scrotum is difficult to make before surgery. In our case, the initial diagnosis was of a testicular tumor and this was corrected only after the histological examination following the excision of the scrotal sac with all its contents. We could not make a diagnosis even after CT, MRI and ultrasonography were. All available findings (clinical history, clinical appearance, radiological dates and physical features) should be integrated into the diagnostic process. Since epidermoid cysts of the scrotum are not malignant removal of the cyst with follow up is sufficient as radical therapy. Unfortunately the cyst could not be discriminated from the testis and

epididymis before operation in the present case. If a biopsy had been taken for preparation of frozen sections, we could have detected the right testis during the operation, and less radical surgery would have been an option. Painless masses in the scrotum are frequently difficult to diagnose and taking our experience with the present case into consideration, we suggest that careful examination of frozen sections be made before the final decision as to surgery.

### CONCLUSION

We have reported a case of an epidermoid cyst of the scrotum which initially could not be distinguished from a testicular tumor.

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## 和文抄録

## 陰嚢巨大類表皮嚢胞の1例

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患者は44歳男性，右陰嚢の無痛性腫大を主訴に受診。エコー，CT，MRIにて右精巣腫瘍と診断され，右精巣摘除術を施行した。病理結果は陰嚢類表皮嚢胞であった。類表皮嚢胞とは組織学的に，重層扁平上皮よりなる嚢胞壁を持ち，中に角化物を入れ，皮膚付属器がないものである。精巣の良性腫瘍として類表皮

嚢胞は多くの報告があるが，陰嚢内に発生し，精巣や精索に無関係なものはきわめて稀である。陰嚢類表皮嚢胞は陰嚢の良性腫瘍であり，術前診断あるいは術中迅速凍結標本において診断できれば，精巣摘除を施行せずに済む症例であった。

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